CONTENTS

SECTION A—VOL. XLIX

No. 1—January 1959

PAGE

Chemical Investigation of Indian Lichens. Part XXI. Occurrence of Fallacinal in *Teloschistes flavicans* . . . T. R. Rajagopalan and T. R. Seshadri 1

Electrochemical Behaviour of Zinc in Alkaline Solutions. Part II. Constant Over-Voltage Measurements . . Indra Sanghi and M. Fleischmann 6

Pulse Spread in Proportional Counters . . . . . S. Ramakrishna 25

Heterocyclic Compounds. Part XIV. Synthetic Experiments in the Pyrido-(1, 2 *a*)-Pyrimidone Series . . . . . M. Krishnan 31

Polarographic Behaviour of Organic Iodocompounds. Part III. *o*-Iodobenzoic Acid . . . . . C. S. Ramanathan and R. S. Subrahmanya 37

Leucoanthocyanidin-(Flav-3-ene-3-ol) Acetates . . . . . K. R. Laumas and T. R. Seshadri 47

No. 2—February 1959

The Atomic Heats of Gold, Platinum and Antimony at Liquid Helium Temperatures . . . . . K. G. Ramanathan and T. M. Srinivasan 55

Lattice and Electronic Specific Heats of Zinc and Cadmium . T. M. Srinivasan 61

Discrete Symmetries and Chirality Invariance in Quantum Field Dynamics . . . . . E. C. G. Sudarshan 66

Kinetic Studies in Ester Hydrolysis. Part VIII. The Alkaline Hydrolysis of Ethyl Acetate in Acetone-Water Mixtures . . . . . S. V. Anantakrishnan and A. V. Anantaraman 86

Search for Physiologically Active Compounds. Part III. Synthesis of 7-Nitro-2-methyl-3-aryl Quinazolones . . . . . S. K. V. Seshavataram and N. V. Subba Rao 96

Studies on Groundnut Shells. Part III. The Structure of Groundnut Shell Hemicellulose B_1 . . . B. Radhakrishnamurty and V. R. Srinivasan 98

Constitution of Dalbergin. Part V. A Further Study of 4-Phenyl Coumarins . . . . . V. K. Ahluwalia, C. L. Rustogi and T. R. Seshadri 104

No. 2—February 1959 (*Contd.*)

PAGE

Catalysed Solvolysis of Benzyl Chloride . . . . . (Miss) K. Saramma and R. Anantaraman 111

Emission Spectrum of Chlorine Excited in the Presence of Argon. Part I. The Band System in the Region 2600-2390 Å . . . . . Putcha Venkateswarlu and Baij Nath Khanna 117

No. 3—March 1959

Electrocapillaryphoresis, a Potent Cause of Desorption Peaks and Polarographic Maxima . . . . K. S. G. Doss and V. K. Venkatesan 129

Studies on Collagen. III. Oriented Crystallisation of Inorganic Salt on Collagen . . . . . G. K. Ambady 136

Influence of Surface Active Agents on Spectrophotometric Determinations of pH . . . . . Indra Sanghi and N. V. Parthasarathy 144

The Electrical Conductivity of Silica Sols . . . . . M. J. Patani, P. J. Patani and A. M. Trivedi 151

The Near Ultraviolet Emission Spectrum of Tetralin (Tetrahydronaphthalene) . . . . . R. N. Bapat 158

Ore-Microscopic Studies of the Manganese Ore-Minerals of Old M.P. I. Dongribuzurg, Bhandara District . . . . . S. P. Deshpande 165

Kinetic Studies in Ester Hydrolysis. Part IX. The Hydrolysis of Ethyl Acetate in Dioxan-Water Systems . . . . . S. V. Anantakrishnan and A. V. Anantaraman 174

No. 4—April 1959

Christiaan Huyghens and the Wave Theory of Light . Sir C. V. Raman 185

Studies in the Formation of Heterocyclic Rings Containing Nitrogen. Part VII. Condensation of 4-Nitro-*o*-Phenylenediamine with Aromatic Aldehydes . . . . . N. V. Subba Rao and C. V. Ratnam 193

The Photolytic Preparation of Uranium Tetrafluoride . . . . . D. Patnaik and Balaram Sahoo 200

The Near Ultraviolet Absorption Spectrum of *Para*-Thio-Cresol . . . . . R. N. Bapat 203

Studies on Collagen. IV. Deposition of Inorganic Crystallites on Collagen . . . . . M. S. Santhanam 210

No. 4—April 1959 (*Contd.*)

PAGE

Studies on Collagen. V. Modification of Collagen by Neutral Salt Solutions . . . . . M. S. Santhanam 215

Studies on the Complex Formation of Boron with Aromatic Hydroxy Compounds. . . . . . I. A. Khan and Debabrata Sen 226

A New Synthesis of Islandicin and Cynodontin . . . . . S. Neelakantan, T. R. Rajagopalan and T. R. Seshadri 234

Constitution of Vogeletin. The Pigment from the Seeds of *Tephrosia vogelii* Hook. . . . . . S. Rangaswami and K. Hanumantha Rao 241

No. 5—May 1959

The Optics of Mirages . . . C. V. Raman and S. Pancharatnam 251

Electrical Oscillations in a D.C. Glow Discharge . . . . . V. T. Chiplonkar and J. Mangaly 262

Polarisation and Polishing Studies on Copper in a Hull Cell . . . . . Indra Sanghi and VR. Ramanathan 281

Emission Spectrum of Chlorine Excited in the Presence of Argon. Part II. The Band System in the Region 2365-2239 Å . . Baij Nath Khanna 293

Photo-Mesons from Polarized Nucleons . . . . . Alladi Ramakrishnan, . . . S. K. Srinivasan, N. R. Ranganathan and K. Venkatesan 302

No. 6—June 1959

Caustics Formed by Diffraction and the Geometric Theory of Diffraction Patterns . . . . . Sir C. V. Raman 307

Effect of Dimensional Orientation on Ultrasonic Velocities in Some Rocks . . . . . S. Balakrishna 318

Longitudinal Polarisation of Beta Particles from Rb^{86}, Pr^{144} and Co^{60} . . . . . M. C. Joshi, V. G. Kulkarni, C. V. Panat and B. V. Thosar 322

X-Ray Camera for Study of Crystals at Low Temperatures . . . . . M. A. Viswamitra 326

Particle Size Distributions in Ultrasonic Emulsification . . E. S. Rajagopal 333

The Crystal Structures of L-Tyrosine Hydrohalides. Part I. L-Tyrosine Hydrobromide . . . . . R. Srinivasan 340